

## AMENDMENTS TO CLAIMS

### **Amend the claims as follows:**

1. (Currently Amended)      A data processing unit for registering a first image and a second image of an object, the data processing unit being set up to:
  - segment the images automatically into various object constituents;
  - register only those image areas associated with preselected object constituents which are relevant to a predetermined task, wherein the object constituents to be registered are selected independently from the first image and the second image.
2. (Previously Presented)      A data processing unit for registering a first image and a second ~~image of an object, in particular a data processing unit as claimed in claim 1, which is set up to:~~
  - segment the images automatically into various object constituents;
  - register the image areas of various object constituents using individually assigned registration methods.
3. (Previously Presented)      A data processing unit as claimed in claim 1, wherein the segmented object constituents are automatically classified.
4. (Previously Presented)      A data processing unit as claimed in claim 1, wherein a linear registration is performed on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.
5. (Previously Presented)      A data processing unit as claimed in claim 1, wherein the first image and/or the second image are/is (a) two- or three-dimensional computer tomogram(s), in particular an X-ray photograph or a magnetic resonance image.
6. (Previously Presented)      A data processing unit as claimed in claim 1, wherein the object is the chest of a patient, the lungs being the object constituent relevant to a tumor diagnosis.

7. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmentation is performed using a watershed transformation.
8. (Previously Presented) An examination apparatus, comprising:
- an imaging device for producing images of an object;
  - a data processing unit as claimed in claim 1, coupled to the imaging device.
9. (Currently Amended) A method for registering a first image and a second image of an object, comprising the following steps:
- automatic segmentation of the images into various object constituents;
  - registration of the image areas associated with ~~preselected~~ object constituents
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- ~~relevant to a predetermined task, wherein the object constituents to be registered are selected independently from the first image and the second image.~~
10. (Currently Amended) The A method of claim 9 wherein the registration is performed for registering a first image and a second image of an object, comprising the following steps:
- ~~automatic segmentation of the images into various object constituents;~~
  - ~~registration of the image areas of various object constituents using individually assigned registration methods~~ in each object constituent.
11. (New) The method of claim 9, further comprising automatically classifying the segmented object constituents.
12. (New) The method of claim 9, further comprising performing a linear registration on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.
13. (New) The method of claim 9, wherein one of the first image and the second image is a two- or three-dimensional computer tomogram.

14. (New) The method of claim 9, wherein the object is a chest of a patient, and the predetermined task is tumor diagnosis in a lung of the patient.
15. (New) The method of claim 9, further comprising performing the segmentation using a watershed transformation.
16. (New) The method of claim 9, wherein the registration is one of a rigid body transformation, an affine transformation, and a non-linear spline function.
17. (New) A data processing unit as claimed in claim 1, wherein the registration is one of a rigid body transformation, an affine transformation, and a non-linear spline function.
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